CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

BOARD ORDER NO. R6V-2009-0037
WDID NO. 6B360107001

REVISED WASTE DISCHARGE REQUIREMENTS
FOR

LAKE ARROWHEAD COMMUNITY SERVICES DISTRICT
DOMESTIC WASTEWATER TREATMENT FACILITIES

San Bernardino County

The California Regional Water Quality Control Board, Lahontan Region (Water Board), finds:

1. Discharger

Lake Arrowhead Community Services District has submitted a Revised Report of Waste Discharge (RWD)[1] for its Grass Valley and Willow Creek Domestic Wastewater Treatment Plants (WTPs). For the purposes of this Order, Lake Arrowhead Community Services District is referred to as the "Discharger."

2. Facilities

The Discharger collects, treats and disposes of an annual average of approximately 1.53 million gallons per day (MGD) of domestic wastewater. Facilities for wastewater collection and treatment are located in the San Bernardino Mountains between elevations of 4,890 and 5,800 feet above mean sea level (amsl). Wastewater treatment occurs at the Grass Valley and Willow Creek WTPs. Secondary-treated effluent is transported by gravity flow in a 10-mile outfall pipeline to the Discharger's Hesperia Effluent Management Site (EMS) located in the Mojave Desert at an elevation of approximately 3,000 feet amsl. The Hesperia EMS occupies of 350 acres and includes four percolation ponds where treated wastewater is disposed and an area for application of treated wastewater to grow fodder crops. Operation of the Hesperia EMS began in 1977.

[1] Lake Arrowhead Community Services District (LACSD), 2009, Revised Plan for Revision of Waste Discharge Requirements, February 11.

LACSD, 2007, Design plans titled: Grass Valley Treatment Plant Expansion to 3.75 MGD, October.

LACSD, 2006, August 21, Form 200

LACSD, 2006, Final Basis of Design and Engineering Report, Grass Valley Wastewater Treatment Plant Recycled Water System Phase I Project, Prepared by CH2MHill, August.

3. Reason for Action

The Water Board is revising these requirements to remove the requirement to disinfect the treated effluent prior to the discharge to percolation ponds at the Hesperia EMS. Because wastewater disposed to the ponds is not re-used, disinfection is not required for disposal to the ponds. Removal of this requirement will reduce the potential formation of disinfection bi-products in the underlying groundwater.

Provision No. II.C. of the Order establishes a schedule, which the Discharger must follow to determine the presence of ground water degradation caused by disinfection by-products (DBPs) discharges from the Hesperia Effluent Management Site.

This Order also incorporates updated information regarding the District's wastewater treatment facilities. As part of facility improvements additional secondary treatment facilities will be added at the Grass Valley WTP to replace old facilities located at the Willow Creek WTP. The Willow Creek WTP will no longer be used for secondary treatment and will be converted to a flow equalization facility. No increase in the overall secondary-treatment capacity will occur.

4. Order History

This Order updates the most recent Waste Discharge Requirements (WDRs) contained in Board Order No. R6V-2002-0008 adopted on February 13, 2002. On June 13, 2007, the Water Board established Master Water Recycling Requirements (Order No. R6V-2007-0022) for the Discharger's proposed project to supply up to 1.0 MGD of Title 22 disinfected tertiary treated recycled water treated to the Lake Arrowhead Country Club Golf Course and potentially other users within the Discharger's service area. Previous WDRs were prescribed in Board Order Nos. 6-89-110, 6-88-10, 6-83-103, 6-80-23, 6-77-68, 6-74-15, 6-72-67, and 6-66-19 for discharges from the treatment plant.

5. Description of Collection System

The Discharger's collection system consists of approximately 200 miles of sewers and 21 lift stations. Lake Arrowhead is predominately a residential/ recreation community. Daily flows in the system rise during periods of recreational use within the community, commonly during holiday weekends. The daily flows also rise during periods of sewer inflow (i.e., inflow of groundwater and surface water into sewers through unsealed points).

6. Description of Treatment Facilities

Sewers convey untreated domestic wastewater to the Willow Creek and Grass Valley WTPs. A pipeline (Intertie Pipeline) is used to convey treated wastewater from the Willow Creek WTP to the Grass Valley WTP for further treatment (see Attachment A, Facilities Location Map). Table 1 describes existing and proposed treatment facilities for the Grass Valley WTP.

Table 1
Summary of Treatment Units at the Grass Valley WTP

Treatment Units	Existing Number of Units	Proposed Number of Units
Wastewater		
Aerated grit chamber	2	2
Primary clarifiers	2	3
High-rate plastic media trickling filters	2	3
Secondary Clarifiers	2	3
Effluent equalization ponds	1	1
Nitrogen Removal Bioreactors (methanol addition)	3	5
Chlorine contact tanks	2	2
1.0 MGD Membrane Filtration and Ultraviolet Disinfection Facility[1]	0	1
Sludge		
Gravity thickener	1	1
Belt filter press	1	2

Table Footnote:
1. The quality of effluent generated by this facility is regulated under a separate Order.

Table 2 summarizes flow rates that were used in the design of the proposed improvements at the Grass Valley treatment plant. Since completion of the upgrades at the Grass Valley treatment plant the District has the capacity to provide secondary treatment (with nitrogen removal) for flow rates up to those summarized in Table 2. During periods of high infiltration/inflow, the influent flow to the treatment facilities is highly diluted, and a higher design flow can be used. During dry periods, the influent is less diluted and the treatment design flow is less as shown in Table 2.

Table 2
Flow Characterization Used for Design[1]
Grass Valley Wastewater Treatment Plant

Flow (Million Gallons per Day)	Type of Flow Measurement
Dry periods with no sewer inflow[2]	
2.7	Average during a 24-hour period
3.75	Average during a 72-hour period; holiday weekends (e.g., July 4th)
Wet periods with sewer inflow	
6.0	Average during a 24-hour period
8.0	Average during a 72-hour period; holiday weekends (e.g., January 1st)
12.0	Maximum instantaneous (or peak)

Table footnotes:
1. Adapted from Table 3-1 from the report titled: Final Basis of Design and Engineering Report, Grass Valley Wastewater Treatment Plant Recycled Water System Phase I Project, Prepared by CH2MHill, August 2006.
2. The term "sewer inflow" is defined as inflow of groundwater and surface water into the sewer system.

7. Locations of Facilities

The Willow Creek and Grass Valley WTPs are located within the W/2, Section 3, and the SW/4, Section 5, T2N, R3W, SBB&M, respectively. The Hesperia EMS is located within the SE/4, Section 1, T3N, R4W, SBB&M. The treatment facilities and the Hesperia EMS are located as shown on Attachment "A", which is made a part of this Order. The locations of existing monitoring wells at the Hesperia EMS are shown on Attachment "B", which is made a part of this Order.

8. Authorized Disposal/Recycling Site

The discharges of treated wastewater at the Hesperia EMS is subject to waste discharge requirements as set forth in this Order. The Hesperia EMS consists of 350-acres of land owned by the Discharger. The Discharger's percolation ponds and fodder-crop irrigation area are located at the Site. The EMS percolation ponds and fodder-crop irrigation area has a disposal capacity of 4.0 MGD.

9. Sludge Treatment and Disposal

Biosolids are hauled offsite to an authorized facility for recycling/disposal.

10. Recycling Regulation

The California State Department of Public Health Services has established statewide reclamation criteria for the use of recycled water for the irrigation of fodder crops. In accordance with section 13523 of the California Water Code (CWC), the Water Board consulted with and received the recommendations of the State Department of Public Health concerning reclamation requirements, which are incorporated within this Order. The District has no current plans to use recycled water for irrigation of fodder crops.

11. Hydrogeology and Upgradient Groundwater Quality

The Discharger's Hesperia EMS is located in the City of Hesperia approximately two miles downstream of the Mojave Forks Dam. The Site is located adjacent to the west bank of the Mojave River. The soils underlying the Site consist of riverbed deposits (primarily of sands and gravels), which extend to depths between 100 and 200 feet. The average depth to groundwater at the Disposal Site is approximately 30 feet. The general direction of groundwater flows is in a northwesterly direction. Information on the quality of groundwater up gradient of the Hesperia EMS is given in Table 3.

Table 3
Quality of Groundwater

Constituents	MCLs[1]	Concentrations in Groundwater (Average)
Total Dissolved Solids (TDS) mg/L	500[2] and 1000[3]	260
Nitrate mg/L as N	10	2.0

Table Footnotes:
1. Drinking water Maximum Contaminant Levels (MCLs)
2. Secondary MCL (Recommended)
3. Secondary MCL (Upper)

12. Effluent Quality

Secondary treated wastewater is discharged to the Hesperia EMS. Effluent limits have been carried over to this Order from the previous WDRs.

The quality of the effluent is summarized in Table 4.

Table 4
Quality of Secondary Treated Wastewater

Constituents	Concentrations (Average)
Total Dissolved Solids (TDS)	335
Total Nitrogen (mg/L as N)	3.5
Biochemical Oxygen Demand (mg/L)	8

13. Receiving Waters

The receiving waters are the groundwaters of the Upper Mojave Hydrologic Area of the Mojave Hydrologic Unit, (Department of Water Resources Unit No. 6-42).

14. Lahontan Basin Plan

The Water Board adopted a Basin Plan, which became effective on March 31, 1995. This Order implements the Basin Plan, as amended.

15. Beneficial Uses

The beneficial uses of the groundwaters of the Upper Mojave Hydrologic Area of the Mojave Hydrologic Unit as set forth and defined in the Basin Plan are:

a. Municipal and domestic supply (MUN);
b. Agricultural supply (AGR);
c. Industrial service supply (IND); and
d. Freshwater replenishment (FRSH).

16. Antidegradation Analysis

State Water Resources Control Board (State Water Board) Resolution No. 68-16 (Statement of policy for maintaining high quality of waters in California) represents the Non-Degradation Objective in the Basin Plan. This WQO requires maintenance of existing high quality of waters unless appropriate findings are made under Resolution No. 68-16.

Treated wastewater is currently discharged to the percolation ponds located at the Site. Evaluation of results of sampling and mathematical modeling indicates treated wastewater percolating from the ponds causes incremental-increases in concentrations of TDS and nitrate in groundwater (degradation) underlying and downgradient of the ponds. Results of modeling are contained in a report titled: Evaluation of Impact of Percolated Effluent on Groundwater in the Upper Mojave

River Basin, Lake Arrowhead Community Services District, prepared by NBS/Lowry Engineers, March 1995. Groundwater sampling data are from the self monitoring reports provided by the Discharger.

Based on results of the evaluation, predicted incremental increases in groundwater quality when compared to background quality underlying the ponds are less than: (a) 5 mg/L for TDS and (b) 0.1 mg/L for nitrate (as N). The effects of the discharge on groundwater concentrations decrease with distance from the ponds. Groundwater monitoring data show seasonal variability with nitrate concentrations in the closest downgradient monitoring well ranging from 0.8 to 9.2 mg/L as N over a one year period (2007-2008). At a distance of 3000 feet, the evaluation indicates the long term incremental increases in concentrations will be less than 2 mg/L for TDS and 0.05 mg/L for nitrate as N. This order contains an annual average receiving water limit for nitrate-nitrogen that is more restrictive than the primary MCL. The limit is derived using the method described in the State Implementation Plan for setting effluent limits.[2] The selected limit is based on the average of nitrate-nitrogen over a five year period for downgradient monitoring wells, which are MW2, MW3, MW4, MW5, MW6, and MW7. The five year average nitrate-nitrogen concentration from these wells is 1.1 mg/L. The long-term average multiplier for these wells, which is based on a log-normal distribution at the 95% confidence level of sample results, is 2.91. Therefore, the derived annual limit is 1.1 mg/L × 2.91 = 3.2 mg/L. The annual limit shall be applied as 4-quarter moving average[3] to evaluate the discharge on a quarterly rather than annual basis.

At individual wells near the Hesperia EMS, Trihalomethane (THM), which are disinfection by-products (DBPs), have generally been non-detect (< 0.5 ug/L) but there have been occasional detections with concentrations up to 25 ug/L for Total THMs. The drinking water MCL for Total THMs is 80 ug/L. This Order removes the requirement for disinfection of the discharge to the Hesperia EMS percolation ponds.

In order to allow any degradation, the Water Board must find that the conditions contained in Resolution No. 68-16 are met. In its evaluation of the proposed discharge to the Hesperia EMS, Resolution No. 68-16 is satisfied because the Water Board finds that:

1. *The water quality changes are consistent with maximum benefit to people of the state* because water quality will be improved from less DBPs in the water, and the discharge will result in only minor degradation for TDS and nitrate;

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[2] SWRCB, 2005, "Policy for Implementation of Toxic Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California.

[3] The result from the current quarterly sample is added to the results from the three previous quarters and an average is obtained. The result is reported quarterly as the 4-quarter moving average.

2. *The water quality changes will not unreasonably affect present and anticipated beneficial use because the discharge will meet* the final effluent limitations that are protective of the receiving water quality;

3. *The water quality changes will not result in water quality less than prescribed in policies* in that the discharge quality is improved and final effluent limitations are such that the discharge will not unreasonably affect present and anticipated beneficial uses and not result in a water quality less than prescribed in the Basin Plan; and

4. *The project is consistent with the use of best practicable treatment or technology control of the discharges to assure that (1) a pollution or nuisance will not occur and (2) the highest water quality consistent with maximum benefit to people of the state* will be maintained. This condition is met because the Discharger has selected treatment or control technology to meet nitrogen effluent limitations. The Discharger has selected high-rate plastic media trickling filters and secondary clarifiers to meet BOD and methylene blue active substances (MBAS) effluent limitations, and nitrogen removal bioreactors to meet nitrogen effluent limitations. The Discharger will also eliminate disinfection prior to for disposal to percolation ponds. This change should result in reducing DBPs in groundwater near the percolation ponds and improving water quality. With the treatment and control measures implemented by the Discharger, a pollution or nuisance will not occur and the highest water quality consistent with maximum benefit to people of the state will be maintained.

17. Disinfection By-Products

Sampling results indicate sporadic detections of trihalomethane (THM) constituents in groundwater that have caused short term degradation. These detections have occurred in individual monitoring wells located in the vicinity of the percolation ponds. THM constituents are DBPs. Concentrations of THMs in the affected individual wells have generally been non-detect (< 0.5 ug/L), but there have been occasional detections with concentrations up to 25 ug/L for Total THMs. The drinking water MCL for Total THMs is 80 ug/L. This Order establishes a schedule to investigate any groundwater degradation caused by DBP discharges to groundwater at the Hesperia EMS and provide a report to the Water Board.

18. Consideration of Water Code Section 13241 Factors

Section 13263 of the Water Code requires that the Board, when prescribing waste discharge requirements, take into consideration six specific factors in Section 13241 of the Water Code. The Board has considered these factors as follows.

a. Past, present, and probable future beneficial uses of water.

The hydrologic unit of the receiving waters is the Mojave River Groundwater Basin. This Order includes requirements for protection of the past, present, and probable future beneficial uses of groundwaters of the Groundwater Basin. The beneficial use of the groundwater includes Municipal and Domestic Supply. Water Quality Objectives (WQOs) for the beneficial use Municipal and Domestic Supply will be met. Provisions in this Order and the attached Monitoring and Reporting Program require the Discharger to routinely sample groundwater monitoring wells for monitoring compliance with the WQOs including the Non-Degradation Objective contained in the Basin Plan. As discussed in Finding No. 17, this Order establishes a schedule, which the Discharger must follow to quantify any groundwater degradation that may have been caused by DBPs discharges to groundwater at the Site and take appropriate action for any DBP degradation that is identified.

b. Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto.

The geological and hydrogeologic characteristics of the subsurface soils and the groundwater basin are described in Finding No. 11. Findings No. 11 and 16 describe the quality of waters.

c. Water quality conditions that could reasonably be achieved through the coordinated control of all factors, which affect water quality in the area.

Alternatives to treat and control the proposed discharge were evaluated. As stated in Findings No. 16, the discharge meets the conditions set forth in State Water Board Resolution No. 68-16 allowing some degradation of groundwater.

d. Economic considerations.

Costs for other alternatives (e.g., reverse osmosis to remove TDS and nitrate) were significantly higher than the denitrification methods used. The current wastewater treatment produces a denitrified effluent and the discharge does not threaten beneficial uses.

e. The need for developing housing within the region.

The proposed project does not increase overall treatment capacity, and does not change the ability of the District to provide service to new housing in the area.

f. The need to develop and use recycled water.

In a separate action, on June 13, 2007, the Water Board adopted Master Water Recycling Requirements (Order No. R6V-2007-0022) for the reuse of recycled title 22 tertiary treated water produced by the District.

19. California Environmental Quality Act Compliance

These revised WDRs govern existing facilities, which the Discharger is currently operating. The project consists only of the continued operation of the existing facilities governed by these revised WDRs and is therefore exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21000 et seq.) in accordance with Section 15301, Chapter 3, Title 14, California Code of Regulations (CCR).

20. Notification of Interested Parties

The Water Board has notified the Discharger and interested parties of its intent to revise WDRs for the discharge.

21. Consideration of Public Comments

The Water Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the Discharger shall comply with the following:

I. DISCHARGE SPECIFICATIONS

A. Effluent Limits

The flow of untreated wastewater to the Grass Valley WTP must not exceed the following:

1. Dry periods with no inflow of groundwater and surface water into the sewer system

Average of 3.75 MGD during a 72-hour period.

2. Wet periods with inflow of groundwater and/or surface water into the sewer system

a. Average of 6.0 MGD during a 24-hour period.
b. Average of 8.0 MGD during a 72-hour period (holiday weekend).
c. Maximum instantaneous of 12.0 MGD.

3. The total effluent flow to the Outfall Pipeline System pipelines during a 24 hour period shall not exceed 4.0 million gallons. This limit is based on the hydraulic capacity of the outfall system.

4. All wastewater discharged to the authorized disposal/recycling site shall not contain concentrations of parameters in excess of the following limits:

Parameter	Units	30-Day Mean	Daily Maximum
Biochemical Oxygen Demand	mg/L	20	30
Methylene Blue Active Substances	mg/L	1.0	2.0
Total Nitrogen as N	mg/L	8	10

5. All wastewater made available to the authorized disposal/recycling site shall have a pH of not less than 6.0 pH units nor more than 9.0 pH units. A pH value over 9.0 is allowed if it results from a biological process within the treatment facilities.

6. All wastewater discharged to the authorized disposal/recycling site shall have a dissolved oxygen concentration not less than 1.0 mg/L.

B. Receiving Water Limitation

1. The discharge shall not cause the nitrate groundwater concentration beneath the Hesperia EMS to exceed 3.2 mg/L as nitrogen, averaged over sample results from groundwater monitoring wells MW2, MW3, MW4A, MW5, MW6, and MW7 as shown on Attachment B.

2. This discharge shall not cause a violation of any applicable water quality standards for receiving water adopted by the Water Board or the State Water Board.

3. The discharge shall not cause the presence of the following substances or conditions in groundwaters of the Mojave Hydrologic Unit:

   a. Bacteria: In groundwaters, the median concentration of coliform organisms over any seven-day period shall be less than 1.1/100 milliliters.

b. Chemical Constituents: Groundwaters shall not contain concentrations of chemical constituents in excess of the MCL or secondary maximum contaminant level (SMCL) based upon drinking water standards specified in the following provisions of title 22 of the CCR: Table No. 64431-A of section 64431 (Inorganic Chemicals), Table No. 64431-B of section 64431 (Fluoride), Table No. 6444-A of section 64444 (Organic Chemicals), Table No. 64449-A of section 64449 (SMCLs - Consumer Acceptance Limits), and Table No. 64449-B of section 64449 (SMCLs - Ranges). This incorporation-by-reference is prospective including future changes to the incorporated provisions as the changes take effect. Waters designated as Agricultural Supply shall not contain concentrations of chemical constituents in amounts that adversely affect the water for beneficial uses (i.e., agricultural purposes).

Groundwaters shall not contain concentrations of chemical constituents that adversely affect the water for beneficial uses.

c. Radioactivity: Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life, or that result in the accumulation of radionuclides in the food chain to an extent that it presents a hazard to human, plant, animal, or aquatic life. Waters shall not contain concentrations of radionuclides in excess of limits specified in the CCR, title 22, chapter 15, article 5, section 64443.

d. Taste and Odors - Groundwaters shall not contain taste or odor-producing substances in concentrations that cause nuisance or that adversely affect beneficial uses. For groundwaters designated as Municipal or Domestic Supply at a minimum, concentrations shall not exceed adopted SMCLs specified in Table No. 64449-A of section 64449 (SMCLs - Ranges), and Table No. 64449-B of section 64449 (SMCLs - Ranges) of title 22 of the CCR, including future changes as the changes take effect.

C. Reclamation Specifications

Pursuant to Water Code section 13523.1, subdivision (b)(2), the Discharger must comply with the Uniform Statewide Reclamation Criteria, which are contained in CCR, title 22, sections 60301 through 60355 and are established pursuant to Water Code section 13521.

D. General Requirements and Prohibitions

1. There shall be no discharge, bypass, or diversion of untreated or partially treated sewage, sewage sludge, grease, or oils from the collection, transport, treatment, or disposal facilities to adjacent land areas or surface waters.

2. Surface flow or visible discharge of sewage or sewage effluent from the authorized disposal/recycling site to adjacent land areas or surface waters is prohibited.

3. All facilities used for collection, transport, treatment or disposal of waste shall be adequately protected against overflow, washout, inundation, structural damage, or a significant reduction in efficiency resulting from a storm or flood having a recurrence interval of once in 100 years.

4. The vertical distance between the liquid surface elevation and the lowest point of a pond dike or the invert of an over flow structure shall not be less than 2.0 feet.

5. The Discharger shall comply with USEPA standards for Collection System infiltration, which is 120 gallons per capita per day (gpcd). During any seven-day period, which has no measurable rainfall but follows a day with measurable rainfall, the average daily influent flowrates ($Q_{gpcd, infiltration}$) to the treatment facilities shall not exceed 120 gpcd. [$Q_{gpcd, infiltration} = Q_{gpd, infiltration} \div P$ where:

   i. $Q_{gpd, infiltration}$ is the average daily influent flowrate (gallons per day) for the seven-day period
   ii. P equals the estimated population, which is determined by dividing the average monthly dry-weather influent flow ($Q_{gpd, dw}$) to the treatment facilities by 80 gpcd. [3] $Q_{gpd, dw}$ is the average influent flowrate during dry weather (A period during the previous summer when there is no rainfall.)]

6. The Discharger shall comply with USEPA standards for Collection System inflow, which is 275 gpcd. The daily flow ($Q_{gpcd, inflow}$) on any day shall not exceed 275 gpcd. [$Q_{gpcd, inflow} = Q_{gpd, inflow} \div P$ where $Q_{gpd, inflow}$ is the flow for the day in gpd and P equals the estimated population, which is calculated as described in the preceding discharge specification.]

7. Neither the treatment nor the discharge shall cause pollution, threatened pollution or nuisance as defined in the CWC.

[3] The Discharger developed the value of 80 qpcd in its 1983 Sewer Master Plan (*LKACSD, 1998*).

8. The discharge of wastewater except to the authorized disposal/recycling site is prohibited.

9. The discharge of waste, as defined in the CWC, which causes violation of any narrative WQO contained in the Basin Plan is prohibited.

10. The discharge of waste, which causes violation of any numeric WQO contained in the Basin Plan, is prohibited.

11. Where any numeric or narrative WQO contained in the Basin Plan is already being exceeded, the discharge of waste, which causes further degradation or pollution, is prohibited.

12. The Discharger shall comply with all existing federal and state laws and regulations that apply to sewage sludge use and disposal practices.

II. PROVISIONS

A. Waste Discharge Requirements

Provision No. II.B. of Board Order No. R6V-2002-0008 states that:

> "Discharge Specifications No. I.D.1, I.D.3 and I.D.5 of Board Order No. 6-89-110 shall remain in effect and unchanged. All other Discharge Specifications and Findings of Board Order No. 6-89-110, and all Provisions of Board Order No. 6-89-110 are no longer in effect."

The above provision shall remain in effect and unchanged. All other Provisions and all Discharge Specifications and Findings of Board Order No. R6V-2002-0008 are no longer in effect.

B. Farm Management Plan

At least 120 days prior to using recycled water to grow crops at the Hesperia EMS the District must submit a Farm Management Plan describing methods to ensure recycled water is applied at agronomic rates.

C. Compliance Schedule

Pursuant to the CWC, section 13267, the Discharger must meet the following compliance milestones:

Item	Due Date
1. Submit to the Water Board: a. A Work Plan for conducting a site investigation to further define the presence (including the magnitude and extent) of disinfection by-products (DBPs) in groundwater underlying the Hesperia EMS. b. Implementation schedule for the Site Investigation Work Plan.	**September 17, 2009**
2. Following acceptance of the above-referenced Plans, begin the site investigation described in the Plans.	**February 19, 2010**
3. Submit to the Water Board's Victorville office a Site Investigation Report containing the results of site investigation, and recommendations to address any degradation detected.	**June 25, 2010**

D. Operator Certificates

The Discharger's treatment facilities shall be supervised by persons possessing a wastewater treatment plant operator certificate of appropriate grade pursuant to title 23, of the CCR.

E. Standard Provisions

The Discharger shall comply with the "Standard Provisions for WDRs" dated September 1, 1994, in (Attachment "C") which is made part of this Order.

F. Monitoring and Reporting

1. Pursuant to Section 13267(b), the Discharger shall comply with the Monitoring and Reporting Program R6V-2009-(PROPOSED) as specified by the Executive Officer.

2. The Discharger shall comply with the "General Provisions for Monitoring and Reporting," dated September 1, 1994, which is attached to and made part of the Monitoring and Reporting Program.

I, Harold J. Singer, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Lahontan Region, on June 10, 2009.

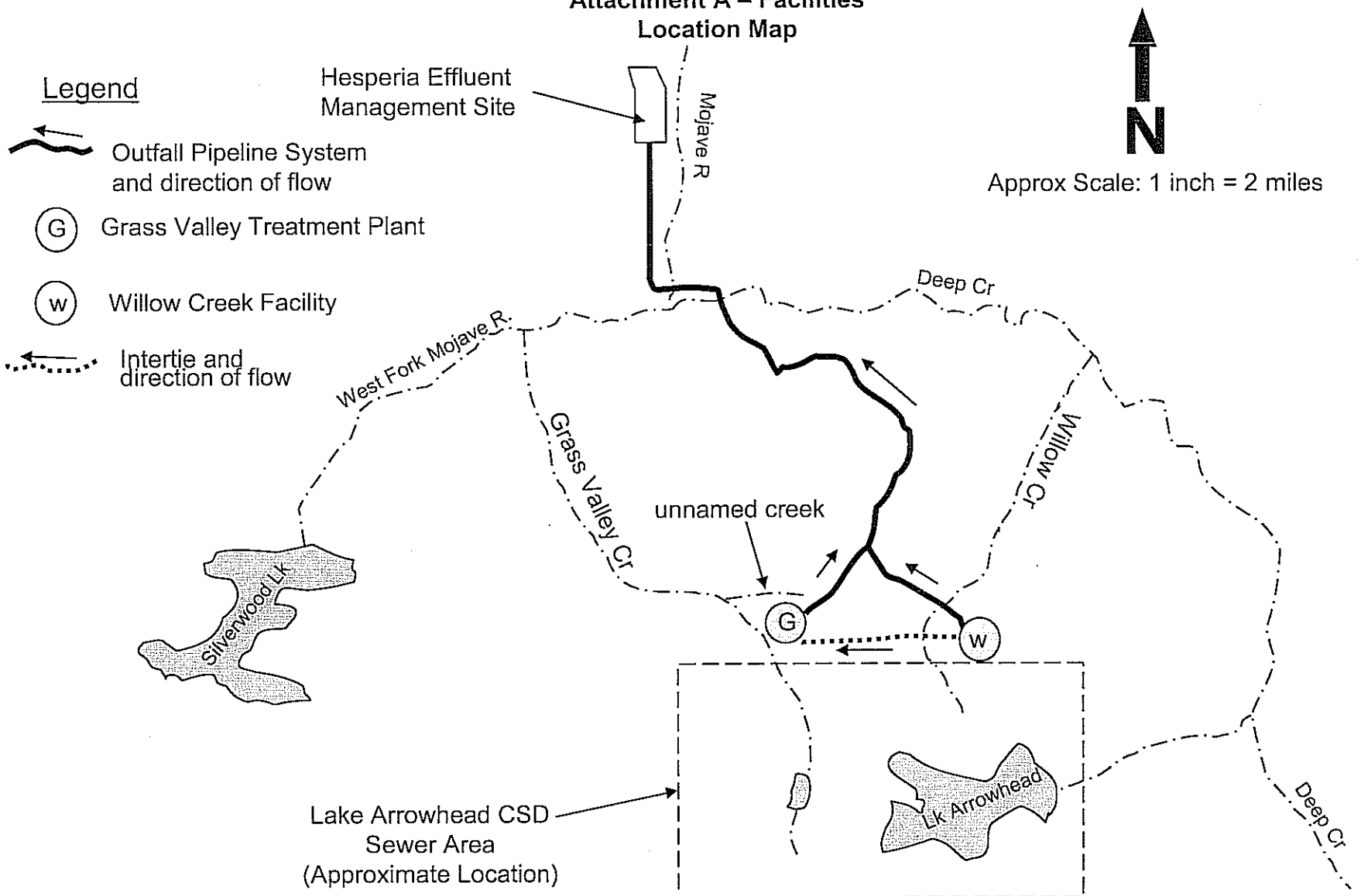
Harold J. Singer

HAROLD J. SINGER
EXECUTIVE OFFICER

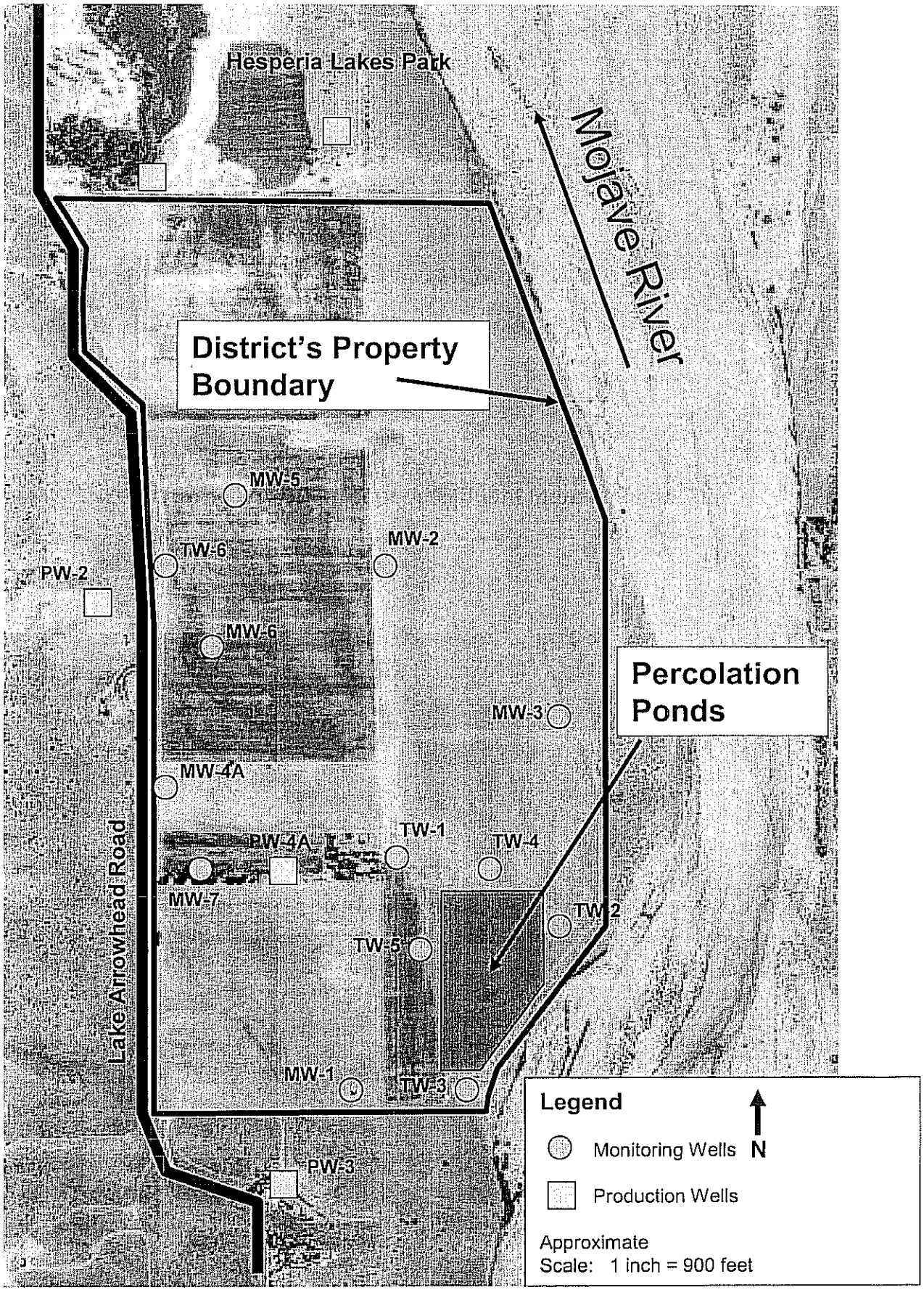
Attachments: A. Location Map
B. Hesperia Effluent Management Site
C. Standard Provisions for Waste Discharge Requirements

MC/rp BO2009/LkArrowheadCSD/R6V-2009-0037 WDR

Attachment A – Facilities Location Map



Attachment B
Lake Arrowhead CSD - Hesperia Effluent Management Site



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

STANDARD PROVISIONS
FOR WASTE DISCHARGE REQUIREMENTS

1. Inspection and Entry

The Discharger shall permit Regional Board staff:

a. to enter upon premises in which an effluent source is located or in which any required records are kept;

b. to copy any records relating to the discharge or relating to compliance with the Waste Discharge Requirements (WDRs);

c. to inspect monitoring equipment or records; and

d. to sample any discharge.

2. Reporting Requirements

a. Pursuant to California Water Code 13267(b), the Discharger shall immediately notify the Regional Board by telephone whenever an adverse condition occurred as a result of this discharge; written confirmation shall follow within two weeks. An adverse condition includes, but is not limited to, spills of petroleum products or toxic chemicals, or damage to control facilities that could affect compliance.

b. Pursuant to California Water Code Section 13260 (c), any proposed material change in the character of the waste, manner or method of treatment or disposal, increase of discharge, or location of discharge, shall be reported to the Regional Board at least 120 days in advance of implementation of any such proposal. This shall include, but not be limited to, all significant soil disturbances.

c. The Owners/Discharger of property subject to WDRs shall be considered to have a continuing responsibility for ensuring compliance with applicable WDRs in the operations or use of the owned property. Pursuant to California Water Code Section 13260(c), any change in the ownership and/or operation of property subject to the WDRs shall be reported to the Regional Board. Notification of applicable WDRs shall be furnished in writing to the new owners and/or operators and a copy of such notification shall be sent to the Regional Board.

d. If a Discharger becomes aware that any information submitted to the Regional Board is incorrect, the Discharger shall immediately notify the Regional Board, in writing, and correct that information.

e. Reports required by the WDRs, and other information requested by the Regional Board, must be signed by a duly authorized representative of the Discharger. Under Section 13268 of the California Water Code, any person failing or refusing to furnish technical or monitoring reports, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars ($1,000) for each day of violation.

f. If the Discharger becomes aware that their WDRs (or permit) are no longer needed (because the project will not be built or the discharge will cease) the Discharger shall notify the Regional Board in writing and request that their WDRs (or permit) be rescinded.

3. Right to Revise WDRs

The Regional Board reserves the privilege of changing all or any portion of the WDRs upon legal notice to and after opportunity to be heard is given to all concerned parties.

4. Duty to Comply

Failure to comply with the WDRs may constitute a violation of the California Water Code and is grounds for enforcement action or for permit termination, revocation and re-issuance, or modification.

5. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge in violation of the WDRs which has a reasonable likelihood of adversely affecting human health or the environment.

6. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the WDRs. Proper operation and maintenance includes adequate laboratory control, where appropriate, and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by the Discharger, when necessary to achieve compliance with the conditions of the WDRs.

7. Waste Discharge Requirement Actions

The WDRs may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for waste discharge requirement modification, revocation and re-issuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any of the WDRs conditions.

8. Property Rights

The WDRs do not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

9. Enforcement

The California Water Code provides for civil liability and criminal penalties for violations or threatened violations of the WDRs including imposition of civil liability or referral to the Attorney General.

10. Availability

A copy of the WDRs shall be kept and maintained by the Discharger and be available at all times to operating personnel.

11. Severability

Provisions of the WDRs are severable. If any provision of the requirements is found invalid, the remainder of the requirements shall not be affected.

12. Public Access

General public access shall be effectively excluded from treatment and disposal facilities.

13. Transfers

Providing there is no material change in the operation of the facility, this Order may be transferred to a new owner or operation. The owner/operator must request the transfer in writing and receive written approval from the Regional Board's Executive Officer.

14. Definitions

a. "Surface waters" as used in this Order, include, but are not limited to, live streams, either perennial or ephemeral, which flow in natural or artificial water courses and natural lakes and artificial impoundments of waters. "Surface waters" does not include artificial water courses or impoundments used exclusively for wastewater disposal.

b. "Ground waters" as used in this Order, include, but are not limited to, all subsurface waters being above atmospheric pressure and the capillary fringe of these waters.

15. Storm Protection

All facilities used for collection, transport, treatment, storage, or disposal of waste shall be adequately protected against overflow, washout, inundation, structural damage or a significant reduction in efficiency resulting from a storm or flood having a recurrence interval of once in 100 years.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

REVISED MONITORING AND REPORTING PROGRAM
NO. R6V-2009-0037
WDID NO. 6B360107001
FOR

LAKE ARROWHEAD COMMUNITY SERVICES DISTRICT
DOMESTIC WASTEWATER TREATMENT FACILITIES

San Bernardino County

I. MONITORING

A. Flow Monitoring

1. The following shall be recorded for the flows from the Collection System to the Grass Valley Wastewater Treatment Plant (WWTP):
   a. Maximum instantaneous flow rate (million gallons per day) for each day;
   b. Total volume (million gallons) for each day;
   c. Total volume (million gallons) for each month; and
   d. Average flowrate (million gallons per day) for each month.

2. The following shall be recorded for flows to the Irrigation Area and Percolation Ponds:
   a. Total volume (million gallons) for each day;
   b. Total volume (million gallons) for each month; and
   c. Average flowrate (million gallons per day) for each month.

3. The Discharger shall measure and record the freeboard (distance from the top of the lowest part of the dike to the wastewater surface in pond) in each Percolation Pond each month. If a Percolation Pond does not contain wastewater, indicate that it is empty.

4. The Discharger shall record and report the total rainfall (inches) for each day in the Collection System area. The Discharger may report data generated by the existing Lake Arrowhead precipitation station, which is maintained by San Bernardino County Flood Control District.

5. The Discharger shall conduct and report results of routine evaluations for excessive I/I using formulae described in the discharge specifications of the attached waste discharge requirements. Raw data inputted into the formulae include data from flow meters that measure raw sewage flowrates to the TFs. Flow meter data used for I/I evaluations shall include flowrates during and following rainfall events as well as flowrates during dry weather (summer months).

B. Effluent Monitoring

Samples of effluent from the Grass Valley WWTP shall be collected and analyzed to determine the magnitude of the following parameters:

Parameter	Units	Type of Sample	Frequency[1]
BOD[2]	mg/L	Grab	Weekly
Methylene Blue Active Substances	mg/L	Grab	Weekly

C. Outfall Monitoring

The Discharger shall collect samples of effluent from the Outfall Pipeline System at the Hesperia Disposal Site. (In lieu of sampling at the Hesperia Effluent Management Site, the Discharger may collect effluent samples at the Grass Valley WWTP.) The samples shall be analyzed to determine the magnitude of the following parameters:

Parameter	Units	Type of Sample	Frequency[1]
BOD[2]	mg/L	6-hour composite[3]	Weekly
Chemical Oxygen Demand (COD)	mg/L	6-hour composite[3]	Weekly
Methylene Blue Active Substances	mg/L	6-hour composite[3]	Weekly
Dissolved Oxygen (DO)	mg/L	Grab	Weekly
pH	pH units	Grab	Weekly
Nitrate Nitrogen	mg/L as N	6-hour composite[3]	Weekly
Kjeldahl Nitrogen	mg/L as N	6-hour composite[3]	Weekly
Ammonia Nitrogen	mg/L as N	6-hour composite[3]	Weekly
Total Organic Carbon	mg/L	6-hour composite[3]	Monthly
Chloride	mg/L	24-hour composite[3]	Quarterly
Sodium	mg/L	24-hour composite[3]	Quarterly
Sulfate	mg/L	24-hour composite[3]	Quarterly
Total Dissolved Solids	mg/L	24-hour composite[3]	Quarterly
Total Trihalomethane Constituents (THMs)[7]	mg/L	Grab	Quarterly
Total Haloacetic Acid Constituents (HAA5s)[7]	mg/L	Grab	Quarterly
Total Chromium[4]	mg/L	24-hour composite[3]	Annually
Hexavalent Chromium[4]	mg/L	24-hour composite[3]	Annually
Heavy Metals[5]	mg/L	24-hour composite[3]	Annually
Semivolatile Organic Compounds (SVOCs)[6]	mg/L	24-hour composite[3]	Annually
Volatile Organic Compounds (VOCs)[7]	mg/L	Grab	Annually
Gross Alpha	pCi/L	24-hour composite[3]	Annually[8]
Gross Beta	pCi/L	24-hour composite[3]	Annually[8]

D. Ground Water Monitoring Hesperia Disposal Site

Grab samples of ground water shall be collected from the following wells:

Well No.	Type
PW-2	Private water supply well
PW-3 or PW-3A	Private water supply well
PW-4A	Hesperia Lakes Park supply well
MW-5	Ground water monitoring well
MW-1	Ground water monitoring well
MW-2	Ground water monitoring well
MW-3	Ground water monitoring well
MW-4	Ground water monitoring well
MW-6	Ground water monitoring well
MW-7	Ground water monitoring well
TW-1	Ground water monitoring well
TW-2	Ground water monitoring well
TW-3	Ground water monitoring well
TW-4	Ground water monitoring well
TW-5	Ground water monitoring well
TW-6	Ground water monitoring well

The frequency of well sampling shall be as described below, and the samples shall be analyzed to determine the magnitude of the parameters listed below.

Parameter	Frequency (MW-1, 2, 3, 4, 5, 6 & 7)	Frequency (TW- 1, 2, 3, 4, 5 & 6)	Frequency (PW-2 & 4A and PW 3 or 3A)
Kjeldahl Nitrogen	Quarterly	Quarterly	Semiannually
Ammonia Nitrogen	Quarterly	Quarterly	Semiannually
Nitrate Nitrogen as N	Quarterly	Quarterly	Semiannually
Total Dissolved Solids	Quarterly	Quarterly	Semiannually
BOD[2]	Quarterly	Semiannually	Semiannually
Chloride	Quarterly	Semiannually	Semiannually
COD	Quarterly	Semiannually	Semiannually
Methylene Blue Active Substances	Annually	Annually	Annually
Total Trihalomethane Constituents (THMs)[7]	Semiannualy[9]	Semiannually[9]	Annually
Total Haloacetic Acid Constituents (HAA5s)[7]	Semiannually[9]	Semiannually[9]	Annually
Sodium	Quarterly	Semiannually	Semiannually
Sulfate	Quarterly	Semiannually	Semiannually
Total Organic Carbon	Quarterly	Semiannually	Semiannually
VOCs[7]	Annually	Annually	Annually
Gross Alpha	Annually	Annually	Annually
Gross Beta	Annually	Annually	Annually

The Discharger shall sufficiently purge each monitoring well before sampling. Purging shall be in accordance with generally accepted sampling practice, to obtain a "representative" ground water sample. If a non-purging method is used, the method proposed must be approved, in advance, by Water Board staff.

Quarterly, the Discharger shall measure and record the depth below the ground surface and determine the elevation above mean sea level of the ground water surface in the ground water monitoring wells listed above.

Annually, the Discharger shall plot the above-described elevations and elevation isopleths (ground water elevation contours) on an 11" x 17" copy of a site plan, which shows the boundaries of the Hesperia Disposal Site and locations of the above listed wells; and calculate and record the ground water gradient, the direction of the gradient, and velocity of ground water flow at the authorized disposal/recycle sites.

Quarterly, the Discharger shall monitor the wells for the following field parameters:

Parameter	Units
Electrical Conductivity (E_c)	µMHOS/CM
Ph	Ph Units
Temperature	^{o}F or ^{o}C
Turbidity	NTU

E. Sludge Monitoring

In the last quarterly report of the calendar year, the Discharger shall describe the methods used to dispose/recycle biosolids. Disposal/recycling must be in accordance with the provisions in the Discharger's Sludge Management Plan and US EPA regulations.

F. Supply Water Monitoring

For each semiannual period, a report shall be submitted to the Water Board detailing a chemical analysis that is representative of the average supply water used within the pertaining sewered areas. Supply water samples for this analysis shall be collected concurrently with effluent samples.

G. Operation and Maintenance

A brief summary of any operational problems and maintenance activities shall be submitted to the Water Board with each monitoring report.

This summary shall discuss:

1. Any modifications or additions to the wastewater conveyance system, treatment facilities, or disposal facilities;

2. Any major maintenance conducted on the wastewater conveyance system, treatment facilities, or disposal facilities;

3. Any major problems occurring in the wastewater conveyance system, treatment facilities, or disposal facilities; and

4. The calibration of any wastewater flow measuring devices.

I. REPORTING

A. General Provisions

1. The Discharger shall comply with the "General Provisions for Monitoring and Reporting," dated September 1, 1994, which is attached to and made part of this Monitoring and Reporting Program.

2. In accordance with Provision No. 3.a. of the General Provisions for Monitoring and Reporting, the Discharger shall make a compliance statement in each submitted monitoring report, noting each violation that occurred during the reporting period and actions taken and/or proposed to return into compliance.

3. The names and grades of treatment facility operators, certified in accordance with Provision No. II.D shall be reported to the Water Board's Victorville office by **March 30th** of each year.

B. Sampling and Analysis Plan

Pursuant to General Provision No. 1d. of the General Provisions for Monitoring and Reporting, the Discharger shall submit to the Regional Board by October 31, 2009, a Sampling and Analysis Plan (SAP) for consideration of approval. The SAP shall include a detailed description of procedures and techniques for:

i. Sample collection, including purging techniques, sampling equipment, and decontamination of sampling equipment;

ii. Sample preservation and shipment;

iii. Analytical procedures;

iv. Chain of custody control; and

v. Quality assurance/quality control (QA/QC).

C. Quarterly Reports

Beginning on **July 31, 2009**, quarterly monitoring reports including the preceding information shall be submitted to the Water Board before the end of the month following each quarterly monitoring period.

D. Annual Report

By **March 30th** of each year, the Discharger shall submit an annual report to the Water Board with the following information:

1. The compliance record and the corrective actions taken or planned, which may be needed to bring the discharge into full compliance with the discharge requirements.

2. A time schedule for additional proposed compliance actions.

3. Any needed updates to the SAP.

4. Graphical and tabular data for the monitoring data obtained for the previous year.

3. Graphical and tabular data for the monitoring data obtained for the previous year.

Ordered by: Harold J. Singer Dated: **June 10, 2009**

HAROLD J. SINGER
EXECUTIVE OFFICER

Attachment: A General Provisions for Monitoring and Reporting Program

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1 Samples shall be collected at a time during the day when the flowrate is at a maximum. At least one half of the samples that are collected on a weekly frequency shall be collected on weekends.

2 BOD (5-day, 20°C) conducted on an unfiltered sample.

3 Samples shall be collected at least every hour and composited in proportion to the flowrate.

4 Use appropriate USEPA approved methods that will quantify concentrations down to 0.001 mg/L for hexavalent chromium and 0.0025 mg/L for total chromium.

5 Analyze for the metals listed in Table II of Section 66261.24(a)(2)(A), Title 22, California Code of Regulations. Use appropriate USEPA approved methods with a minimum quantification limit equal to the background concentration of each metal in ground water. In no case shall the quantification limit be more than the Detection Limits for the Purposes of Reporting (DLRs). The California Department of Health Services establishes DLRs for analyses conducted on samples collected from drinking water supply systems.

6 Use either USEPA Method 625 or 8027.

7 Use an appropriate USEPA Method with a Detection Limit for the Purposes of Reporting (DLR) of 0.5 micrograms per liter or less.

8 Samples shall be taken after disclosure of backwash from deionization unit and there has been adequate time for the release to travel to the sampling point.

9 Frequency is annually following two consecutive years of non-detect results.

ATTACHMENT A

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

GENERAL PROVISIONS
FOR MONITORING AND REPORTING

1. SAMPLING AND ANALYSIS

   a. All analyses shall be performed in accordance with the current edition(s) of the following documents:

      i. Standard Methods for the Examination of Water and Wastewater

      ii. Methods for Chemical Analysis of Water and Wastes, EPA

   b. All analyses shall be performed in a laboratory certified to perform such analyses by the California State Department of Health Services or a laboratory approved by the Regional Board Executive Officer. Specific methods of analysis must be identified on each laboratory report.

   c. Any modifications to the above methods to eliminate known interferences shall be reported with the sample results. The methods used shall also be reported. If methods other than EPA-approved methods or Standard Methods are used, the exact methodology must be submitted for review and must be approved by the Regional Board prior to use.

   d. The Discharger shall establish chain-of-custody procedures to insure that specific individuals are responsible for sample integrity from commencement of sample collection through delivery to an approved laboratory. Sample collection, storage, and analysis shall be conducted in accordance with an approved Sampling and Analysis Plan (SAP). The most recent version of the approved SAP shall be kept at the facility.

   e. The Discharger shall calibrate and perform maintenance procedures on all monitoring instruments and equipment to ensure accuracy of measurements, or shall insure that both activities will be conducted. The calibration of any wastewater flow measuring device shall be recorded and maintained in the permanent log book described in 2.b, below.

   f. A grab sample is defined as an individual sample collected in fewer than 15 minutes.

   g. A composite sample is defined as a combination of no fewer than eight individual samples obtained over the specified sampling period at equal intervals. The volume of each individual sample shall be proportional to the discharge flow rate at the time of sampling. The sampling period shall equal the discharge period, or 24 hours, whichever period is shorter.

2. OPERATIONAL REQUIREMENTS

a. Sample Results

Pursuant to California Water Code Section 13267(b), the Discharger shall maintain all sampling and analytical results including: strip charts; date, exact place, and time of sampling; date analyses were performed; sample collector's name; analyst's name; analytical techniques used; and results of all analyses. Such records shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.

b. Operational Log

Pursuant to California Water Code Section 13267(b), an operation and maintenance log shall be maintained at the facility. All monitoring and reporting data shall be recorded in a permanent log book.

3. REPORTING

a. For every item where the requirements are not met, the Discharger shall submit a statement of the actions undertaken or proposed which will bring the discharge into full compliance with requirements at the earliest time, and shall submit a timetable for correction.

b. Pursuant to California Water Code Section 13267(b), all sampling and analytical results shall be made available to the Regional Board upon request. Results shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.

c. The Discharger shall provide a brief summary of any operational problems and maintenance activities to the Board with each monitoring report. Any modifications or additions to, or any major maintenance conducted on, or any major problems occurring to the wastewater conveyance system, treatment facilities, or disposal facilities shall be included in this summary.

d. Monitoring reports shall be signed by:

i. In the case of a corporation, by a principal executive officer at least of the level of vice-president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates;

ii. In the case of a partnership, by a general partner;

iii. In the case of a sole proprietorship, by the proprietor; or

iv. In the case of a municipal, state or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.

e. Monitoring reports are to include the following:

i. Name and telephone number of individual who can answer questions about the report.

ii. The Monitoring and Reporting Program Number.

iii. WDID Number.

f. Modifications

This Monitoring and Reporting Program may be modified at the discretion of the Regional Board Executive Officer.

4. NONCOMPLIANCE

Under Section 13268 of the Water Code, any person failing or refusing to furnish technical or monitoring reports, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars ($1,000) for each day of violation under Section 13268 of the Water Code.